

REMARKS

The Examiner has rejected Claims 7-12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Pub. No. 2002/0052551 to Sinclair et al. ("Sinclair") in view of U.S. Patent No. 6,293,674 to Huang et al. ("Huang"). Claims 1-6 and 13 stand previously canceled. Claims 7-12 are currently pending. The following remarks are considered by applicant to overcome each of the Examiner's outstanding rejections to current Claims 7-12. An early Notice of Allowance is therefore requested.

I. SUMMARY OF RELEVANT LAW

The determination of obviousness rests on whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. In determining obviousness, four factors should be weighed: (1) the scope and content of the prior art, (2) the differences between the art and the claims at issue, (3) the level of ordinary skill in the art, and (4) whatever objective evidence may be present. Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. The Examiner carries the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness and must show that the references relied on teach or suggest all of the limitations of the claims.

II. REJECTION OF CLAIMS 7-10 UNDER 35 U.S.C. § 103(A) BASED ON SINCLAIR IN VIEW OF HUANG

On page 2 of the current Office Action, the Examiner rejects Claims 7-10 under 35 U.S.C. § 103(a) as being unpatentable over Sinclair in view of Huang. These rejections are respectfully traversed and believed overcome in view of the following discussion.

Claims 7-10

Independent Claim 7 states, in part:

“determining deviations **from the contextual information** (a) of a stored comparison image and/or (b) of a standard image created by evaluating a plurality of comparison images of a similar pathology, **and/or**

“carrying out a similarity analysis **from the contextual information** (a) of a stored comparison image and/or (b) of a standard image created by evaluating a plurality of comparison images of a similar pathology; and

“wherein the **contextual information** is drawn from the **settings of the fundus camera**, manual annotations associated with the recorded fundus images, patient-specific information, **and** image contents.” (emphasis added).

Examiner asserts that Sinclair discloses the above language of Claim 7. This, however, misinterprets the teachings of Sinclair.

As previously discussed, Sinclair teaches a centralized database (“CDB”) of “all patient images, reports, demographic data, and other identifying information.” (Sinclair ¶24.) The database permits one to view “the progress or regression of a patient’s retinopathy ... at the individual lesion level.” (*Id.*) The database can also provide “information on retinopathies in the general population.” (*Id.* ¶25.) Thus, Sinclair teaches a database in which a user can search the history of a specific patient’s retinopathy, or search for images with the same or a similar diagnosis.

However, Sinclair never discloses that any of the information in the CDB which might constitute contextual information, according to Claim 7, is used for either “determining deviations...” or “carrying out a similarity analysis...”, as required by Claim 7. Rather, Sinclair only teaches that certain information can be stored in the CDB (Sinclair, ¶ [0119]), and not that this information is used for either “determining deviations...” or “carrying out a similarity analysis....”

According to Sinclair, a diagnosis and a degree of severity are assigned to an image in a central database, and at least the degree of severity (e.g., for diabetes, retinopathy or AMD) can also be determined automatically. Conversely, all images of a determined diagnosis

or of a determined degree of severity can be retrieved from the database. To this extent, a correspondence can naturally be established between the actual image and images from the database insofar as diagnosis and degree of severity were determined for the actual image.

In Sinclair the determination of discrepancies between the images recorded by a fundus camera and a stored comparison image is carried out not on the basis of the contextual information but on the basis of the image content, particularly the actual disease. Otherwise, monitoring the course of the disease as intended by Sinclair would not be possible at all.

In fact, none of the portions of Sinclair to which Examiner cites a disclosing “determining deviations...”, or “carrying out a similarity analysis...”, even reference that the “determining” or “carrying out” is from the contextual information, as required by Claim 7. Rather, the Examiner states that in Sinclair the quantity and type of possible diseases can be automatically evaluated and graded by means of screening subsystems, RGAs,... and image processing methods based on the digital images. All of this is well and good, but it does not disclose that a “determination of discrepancies in the contextual information of a stored comparison image” takes place. The parts of the specification cited by the Examiner ([0019], [0231] and [0252] to [0265]), are not suited to buttressing his arguments because the process described for automatically grading the severity of the disease (RGA) must be carried out not on the basis of contextual information but based on the specific image contents.

The Examiner further asserts that Sinclair describes “a similarity analysis of the contextual information of a stored comparison image and/or of a standard image,... with similar pathology.” We also dispute this. On the contrary, the specification, particularly [0072] and [0166], shows that the database is searched for images of the same patient for a comparison in order to prepare a disease history [0072]. Contextual information is not required for this, nor would it be useful.

In contrast, the determination of the discrepancies between the images recorded by a fundus camera and a stored comparison image is carried out in our Application on the basis of the contextual information. As such, Sinclair completely fails to disclose either “determining

deviations...” or “carrying out a similarity analysis...”, from the contextual information, as required by Claim 7.

Further, Applicants continue to maintain that Sinclair does not disclose that contextual information is drawn from the “settings of the fundus camera”, as required by Claim 7.

In response, Examiner asserts that contextual information can include “settings of the fundus camera” by disclosing that retinal grading algorithms (“RGAs”) have been discovered to be dependent upon camera properties, digital image pixel density, depth and the magnification, and so forth. Sinclair, ¶ [0238].

However, even as Examiner admits, these are camera properties, and not camera settings (e.g., recording mode, field angle, exposure settings). Settings and properties of cameras are two completely different things, as properties are fixed whereas settings can be set (i.e., changed). Thus, while Sinclair may disclose that RGAs have been discovered to be dependent upon camera properties, Sinclair completely fails to disclose that settings of the fundus camera are used as contextual information for either “determining deviations...” or “carrying out a similarity analysis...”. As such, Sinclair fails to disclose that contextual information is drawn from the “settings of the fundus camera”, as required by Claim 7.

As such, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of obviousness of independent Claim 7, and corresponding Claims 8-10 because they are dependent from Claim 7. Therefore, Applicants respectfully request that Examiner remove the rejection of Claims 7-10 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Pub. No. 2002/0052551 to Sinclair et al. in view of U.S. Patent No. 6,293,674 to Huang et al.

Claims 11 and 12

Similarly to Claim 7, independent Claim 11 states, in part:

“means for evaluating the recorded fundus images of a similar pathology comprising means for analyzing the images **according to the same or similar contextual information**, for gray-value

analysis and/or means for preparing color histograms and/or means for structure analysis; and

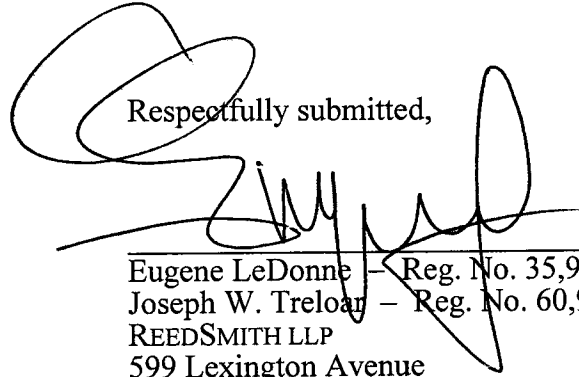
“wherein the **contextual information** is drawn from the **settings of the fundus camera**, manual annotations associated with the recorded fundus images, patient-specific information; **and** image contents....” (emphasis added).

As discussed above in relation to Claim 7, Sinclair (to which Examiner cites as disclosing the above language of Claim 11) fails to disclose that images are analyzed according to contextual information, which is drawn from the settings of the fundus camera. Rather, Sinclair merely teaches that certain information is stored, and not that it is used to analyze images. Also as discussed in relation to Claim 7, Sinclair fails to disclose that the contextual information is drawn from the settings of the fundus camera (e.g., recording mode, field angle, exposure settings). Rather, Sinclair discloses that RGAs have been discovered to be dependent upon camera properties, and not settings. Sinclair, ¶ [0238].

As such, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of obviousness of independent Claim 11, and corresponding Claim 12 because it is dependent from Claim 11. Therefore, Applicants respectfully request that Examiner remove the rejection of Claims 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Pub. No. 2002/0052551 to Sinclair et al. in view of U.S. Patent No. 6,293,674 to Huang et al.

Based upon the above remarks, Applicant respectfully requests reconsideration of this application and its early allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,



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